

CLAIMS

What is claimed is:

1. A process for modulating virulence of a *Streptococcus* comprising:
modifying a genomic fragment of the *Streptococcus*;
wherein at least part of the genomic fragment is capable of hybridizing to a nucleotide sequence selected from the group of nucleotide sequences consisting of any one of SEQ ID NOS: 8-45 or fragments thereof; and
generating a clone having the modified genomic fragment.
2. The process according to claim 2, wherein the genomic fragment comprises a functional part of a gene, the expression of which can be environmentally regulated by iron-restricted conditions in *Streptococcus suis*.
3. The process according to claim 1 or 2, wherein the genomic fragment comprises a functional part of a wild-type *Streptococcus suis* gene expressed in a pig infected with wild-type *Streptococcus suis*.
4. The process according to claim 3, wherein the wild-type *Streptococcus suis* gene encodes a fibronectin/fibrinogen-binding protein.
5. The process according to any one of claims 1 to 4, wherein the *Streptococcus* is *Streptococcus suis*.
6. The process according to any one of claims 1 to 5, wherein modifying the genomic fragment comprises functionally deleting the at least part of the genomic fragment capable of hybridizing to the nucleotide sequence.

7. A clone of a *Streptococcus*, obtained by the process according to any one of claims 1 to 6.

8. The process according to claim 1, wherein the genomic fragment encodes a fibronectin/fibrinogen-binding protein.

9. A process for assaying virulence of a *Streptococcus* comprising:
assaying an ability of the *Streptococcus* to infect a subject;
wherein the *Streptococcus* comprises a genomic fragment associated with a virulence factor to infect a subject; and

wherein at least part of the genomic fragment is capable of hybridizing to a nucleotide sequence selected from the group of nucleotide sequences consisting of any one of SEQ ID NOS: 8-45 or fragments thereof.

10. The process according to claim 9, wherein the genomic fragment encodes a fibronectin/fibrinogen-binding protein.

11. An isolated or recombinant nucleic acid molecule of a *Streptococcus* origin comprising a nucleotide sequence capable of hybridizing to a nucleotide sequence selected from the group of nucleotide sequences consisting of any one of SEQ ID NOS: 8-45 or fragments thereof.

12. A vector comprising the isolated or recombinant nucleic acid molecule of claim 11.

13. A host cell comprising the isolated or recombinant nucleic acid molecule of claim 11 or the vector of claim 12.

14. The host cell of claim 13, wherein the host cell is of a *Streptococcus* origin.

15. A vaccine comprising the clone of claim 7, the isolated or recombinant nucleic acid molecule of claim 11, the vector of claim 12 or the host cell of claim 13 or 14.
16. A protein or fragment thereof, encoded by the isolated or recombinant nucleic acid molecule of claim 11.
17. An antibody directed against the protein or fragment thereof of claim 16.
18. An antigen comprising the protein or fragment thereof of claim 16.
19. A diagnostic test comprising the antibody of claim 17.
20. A vaccine or diagnostic test comprising the antigen of claim 18.